DOCUMENT RESUME

ED 066 221 PS 005 869

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TITLE Who Wants to Live on Sesame Street?
INSTITUTION Learning to Learn, Inc., Jacksonville, Fla.
NOTE 66p.; (Filmed from best available copy)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Academic Achievement; Cognitive Development; *Comparative Analysis; Control Groups; Curriculum Design; Day Care Services; *Economically Disadvantaged; Educational Objectives; *Educational Television; Experimental Groups; Hypothesis Testing; Kindergarten Children; Middle Class; *Preschool Education; Teaching Techniques; Testing; Test Results
IDENTIFIERS Metropolitan Readiness Test; Project Head Start; *Sesame Street

ABSTRACT

Two studies of the effects of "Sesame Street" are presented. In the first case, the study tested two hypotheses: (1) "Sesame Street" can prepare poverty children for first grade; and (2) "Sesame Street" can narrow the achievement gap between the poor and the middle-class child. Twenty-four pairs of poverty children were randomly selected for an experimental and a control group. The experimental children were exposed in a kindergarten setting to the "Sesame Street" curriculum as the educational component of their program. The results of this experiment shows that the curriculum did not accomplish the two relevant educational goals which were established for it. The aim of the second study was to examine and evaluate the effects of exposing groups of poverty children to different time lengths of viewing "Sesame Street" and compare these groups to groups of non-viewing poverty children. The experimental group (E4) and the control group (C4) both attended all-day day care and Head Start kindergarten. The E4 group watched "Sesame Street" every day and their teacher used the "Sesame Street" curriculum as the cognitive component of their program. The day care program of the C4 group was similar to conventional day care programs and had a structural curriculum as the cognitive component of the program. At the beginning of the fourth week in first grade, the children of both groups were given the Metropolitan Readiness Test, which measures word meaning, listening, matching, alphabet, numbers, and copying. On all measures except word meaning, the C4 children scored higher than the 4 children. The children exposed to "Sesame Street" for over a two year period made significantly less educational gains than the children who participated in a traditional Head Start program. (CK)

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WHO WANTS TO LIVE ON SESAME STREET?

by
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At the 1970 Conference of the NAEYC I presented a paper entitled "Can Poverty Children Live On Sesame Street?" (Sprigle, 1971). I used the analogy of David, with data in my sling shot, looking up at Goliath. Well, my presence here today is testimony that David is alive and well. And as for Goliath, he is not only alive and well but gallivanting all over the world. So from the good health he is enjoying, I would say that I missed the mark altogether with my first shot.

At the outset I want to make my position very clear. My quarrel is not with the entertainment value of Sesame Street. It is an improvement over the average fare offered to children. And it was probably an important lever to move the networks to improve the quality of children's entertainment on television.

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Now for those of you who are not familiar with David's

first shot at Goliath let me briefly summarize the findings of that paper delivered at the NAEYC Conference.

The study set out to test two hypotheses suggested by the Research Department of the Children's Television Workshop. These were: Sesame Street can prepare poverty children for first grade. Sesame Street can substantially narrow the achievement gap which now exists between the poor and the middle-class child.

Twenty-four pairs of poverty children were randomly selected for an experimental and a control group. The children were matched on the basis of Binet IQ score, age, similarity of background, parent education, and parent occupation and income as defined by OEO guidelines for low-income families.

The experimental children were exposed in a kindergarten setting to the Sesame Street curriculum as the educational component of their program. The children watched Sesame Street, after which

the teachers followed up on the day's program with activities suggested by the material distributed by CTW for teachers and parents. In addition, the teachers sent home to parents suggestions for activities that would supplement the activities of the classroom.

The findings suggested that Sesame Street curriculum did not accomplish the two relevant educational goals which were established for it. It did not prepare these poverty children for the work they had to do in first grade. It failed to narrow the achievement gap between them and middle-income children.

To say that this paper generated a lively debate and a sharp rebuttal would be an understatement. One member of the panel at the NAEYC Conference questioned the predictive or criterion-related validity of the Metropolitan Readiness Test I used. In essence, he asked for <u>evidence</u> that Sesame Street graduates would in fact, have

trouble in first grade. This kind of evidence was not available at the time since the Sesame Street graduates were just beginning first grade. In studies of the relationship of the Metropolitan Readiness Test scores to later measures of reading and arithmetic achievement the authors (Hildreth, Griffiths, 1969) found that children who score low on the readiness test have trouble learning to read and to do arithmetic. At the time, I took this evidence to support my argument that Sesame Street graduates would experience considerable difficulty in first grade. I now have data on their actual first grade performance as well as data on children with whom they were compared.

To bring some of you up to date, one comparison was made between Sesame Street graduates and a matched group of poverty children who went to the same kindergarten and had the same teacher and aide as the Sesame Street children. However, they did not watch the Sesame Street program. It was the year before Sesame Street went on

television. The teacher filled that time doing other things. The following year this same teacher and aide used the Sesame Street curriculum with all of its follow-through school and home material.

These Sesame Street graduates (E5) and the matched control group (C5) were given the Metropolitan Readiness Test after three weeks in first grade. This date was nearly four months following the completion of the 130 Sesame Street programs. The time lag revealed what the child had remembered and the amount of knowledge available to him to apply and use in first grade. If learning (especially learning with understanding) had, in fact, taken place, it should have had lasting effects and surely should have had holding power over the summer.

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Table 1 shows a comparison of Metropolitan Readiness Test scores of Sesame Street graduates (E5) and of the matched control children who were in the kindergarten classroom a year before the program was

on television. A total score under 45 is below average and suggests that the child is likely to have difficulty in first grade. These scores did not reach statistical significance. They are, however, of educational significance. The poverty children who viewed Sesame Street were no better prepared for first grade than were a matched control group in the same kindergarten with the same teacher the year before the program went on television. Actually, the scores of Sesame Street graduates tend to be lower. There is no evidence from the results of the Metropolitan Readiness Test to indicate any permanent educational gains made by Sesame Street graduates over non-viewing matched poverty children.

The readiness test scores of Sesame Street graduates (E5) were also compared with the scores of their first-grade classmates. These were the children with whom Sesame Street graduates would be working the entire year. These classmates were children from families above the poverty guidelines and were not eligible for Head Start

kindergartens. Most of the parents had a high school education or slightly less and were employed as blue collar or white collar workers.

Table 2 shows that the scores of Sesame Street graduates (ES) were significantly lower than the scores of their classmates on all measures except Matching, suggesting that the Sesame Street child would have a difficult time in a class where the other children were much better prepared. The scores indicated a substantial gap existed between the readiness skills of Sesame Street graduates and those of middle-class children.

As I mentioned before, when I presented these data a the NAEYC Conference, the predictive validity of the Metropolitan was challenged. Table 3 answers that challenge. It compares the achievement of the Sesame Street graduates at the end of first grade with the achievement of their first grade classmates.

The Stanford Achievement Test is a battery of achievement

tests designed to measure the outcomes of the major parts of the elementary school curriculum. The six subtests are:

1. A Word Reading Test that measures the ability to analyze a word without the aid of context. In this subtest the pupils are required to look at a picture and then select the word which stands for the picture from a group of four words.

2. A Paragraph Meaning Test consists of a series of paragraphs, graduated in difficulty. From each paragraph one or more words have been omitted. The test provides a functional measure of the child's ability to comprehend connected discourse ranging in length from single sentences to paragraphs of six sentences and involving levels of comprehension varying from extremely simple recognition to the making of inferences from several related sentences.

3. A Vocabulary Test measures a pupil's vocabulary independent of his reading skill. The test includes items measuring knowledge

of synomyms, of simple definitions, of ready associations, and items designed to measure higher - level comprehension of the concepts represented by words.

4. A Spelling Test is self-explanatory.

5. The Word Study Skills Test consists of Auditory perception of beginning sounds, auditory perception of ending sounds, phonics, and phonograms, or rhyming words.

6. The Arithmetic Test is divided into 3 sections: Measures, Problem-Solving, and Number Concepts.

The Measures part evaluates the pupil's understanding of the meaning of measurement and basic knowledge of standard units.

The Problem-Solving part evaluates the pupil's ability to do simple computations and to understand the language of problems.

The Number Concepts part of the test includes, among other things, counting by two's, knowledge of easy addition and sub-

traction facts, meaning of a unit fraction, and ability to pair an array of objects with its number name.

It is quite apparent from Table 3 that the Sesame Street graduates' performance on the six subtests of the Stanford Achievement Test is statistically and educationally lower than that of their classmates. While their classmates' performance on the subtests was at or above grade level, the Sesame Street graduates' performance on all the subtests was at a very low grade level. This comes as no surprise because it was predicted on the basis of their low readiness test scores.

The teachers' remarks confirmed these findings. They reported that half of the Sesame Street graduates could not read or perform simple arithmetic operations. Many of them marked the test booklet indiscriminately. One other observation was pertinent and quite revealing. The teachers reported that these same children

did not seem to know what school was all about. They just did not have the affective, social, and cognitive tools to cope with a first grade classroom.

Table 4 is a post first grade study of Sesame Street graduates and of the matched control children (C5) reported in Table 1. It compares the academic achievement of both groups at the end of first grade. When comparing the Sesame Street graduates and their controls on the six subtests of the Stanford Achievement Test, the results indicate no statistical differences in academic achievement of the two groups. The significance of these data lies in the fact that the introduction of a complete Sesame Street curriculum into a kindergarten program had no long-term impact on the academic achievement of the poverty children in attendance. Sesame Street was no more effective in preparing poverty children for first grade than the program the teacher used prior to Sesame Street.

The data indicate that the two educational goals established for Sesame Street were not accomplished. The post first grade achievement scores show that the Sesame Street graduates were not, in fact, prepared for school when they entered first grade. The post first grade scores also show a very substantial gap in achievement between Sesame Street graduates and middle class children.

One might argue that the staff of Sesame Street were overzealous in their efforts to promote the program. Perhaps an hour a day during just one school year wasn't sufficient time to overcom the educational handicaps of the poverty child. Two years of viewing Sesame Street would have been more realistic. Before the first public airing of the program, the staff of CTW went beyond the reasonable goal of preparing the poverty child for the average first grade classroo and claimed that when the four-year-old poverty child entered first grade, he would make such dramatic progress that the public schools

would be forced to make substantial changes in curriculum to accommodate him. I took this public boast to mean that the four-year-old poverty child - having watched Sesame Street for two years - would be far out ahead of the five year old who viewed Sesame Street only one year. I also took it to mean that the four-year-old poverty children who viewed Sesame Street two years would show significantly greater gains in preparation for first grade than a similar group of poverty children who did not watch Sesame Street. And finally, I took the claim to mean that surely, after two years of viewing Sesame Street, the achievement gap between the poverty child and the middle-class child would be conspicuously narrowed.

I conducted a second study. One of the aims of this second study was to examine and evaluate the effects of exposing groups of poverty children to different time lengths of viewing Sesame Street and compare these groups to groups of non-viewing poverty children.

Two groups of 24 poverty children were randomly selected. The children were selected on the basis of age, sex, similarity of background, parent education, parent occupation and income, as defined by OEO guidelines for low-income families.

The experimental (E4) and control group (C4) both attended all-day day care and Head Start kindergartens. The day care and Head Start kindergarten facilities were similar but not identical. Most important for this study was the fact that the day care center and kindergarten attended by the experimental group (E4) had a television set and the control children (C4) did not. Both facilities had a teacher and aide and similar classroom equipment and material. The C4 children were inner city children and their day care center and kindergarten had substantially less outside play area. The E4 facilities were on the periphery of the city and had more land area. The E4 children watched Sesame Street every day as part of the day care

program. The kindergarten teacher of the E4 group used the Sesame Street curriculum as the cognitive component of their program. The children watched Sesame Street, after which the teacher followed up the day's program with activities suggested by the material distributed by CTW for teachers and parents.

The day care program of the C4 group was similar to conventional day care programs which provide children with an abundant variety of stimulation. The activities of the program were child-initiated and child-guided. The teacher and aide were available to provide opportunities for affective, social, and cognitive development. The child - through his initiative - determined the frequency and duration of adult-child contacts and interactions.

The C4 kindergarten had a structured curriculum as the cognitive component of its program. Each day the teacher would sit

around a table in the corner of the room with 4 or 5 children. She used pictures and manipulative materials to teach the children numbers, colors, shapes, and the alphabet. The activities were teacher-initiated and teacher-directed. The teacher was rather firm and took a no-nonsense approach to teaching the lesson. There was considerable teacher-child interaction and a moderate amount of child-child interaction. She encouraged talking and manipulating materials, but it had to be relevant to her activity. It was very apparent she was teaching those readiness skills the child would need in first grade. The remaining children were engaged in free-play activity under the supervision of the aide.

Assuming the teacher variable was the same for both groups, the differences, if any between the Experimental (E4) and Control (C4) groups can be attributed to the differences in the curricula of the two programs. Remember, the Experimental (E4) children viewed Sesame

Street two consecutive years.

At the beginning of the fourth week in first grade, the children of both groups were given the Metropolitan Readiness Test. (1964) They were also given pencil and paper and asked to draw a boy or a girl just like themselves. They were told to go slowly and draw as good a boy or girl like themselves as they could.

The Metropolitan Readiness Test was chosen because it measures those skills Sesame Street purports to teach and it measures how well prepared the child is to undertake the work of the first grade.

For those of you not familiar with the Metropolitan, it consists of six subtests, i.e. word meaning, listening, matching, alphabet numbers and copying.

The Word Meaning measures the child's store of verbal concepts. It is presented in the form of a picture vocabulary test and permits the

child to indicate the breadth of his oral vocabulary. The Listening Test strives to tap the child's ability to comprehend phrases and sentences. In certain of the items there is some reasoning involved, and in all of them the child must pay attention and concentrate to some degree.

Matching seeks to get at visual-perceptual skills. It is a visual discrimination task akin to what is involved in discriminating word forms in beginning reading.

Alphabet gets at the child's ability to recognize letters of the alphabet when these are spoken by the teacher.

The Number Test is an inventory of the child's stock of number concepts, number knowledge, ability to manipulate quantitative relationships, recognition of and ability to produce number symbols and related knowledge.

In the Copying Test the child manifests a combination of

visual perception and motor control similar to what is called for in learning handwriting. The items are letters of the alphabet, geometric forms and shapes.

These tests measure precisely those experiences to which the child was exposed on Sesame Street. The curriculum of the program covers all those activities which the child is called upon to do in first grade. So the child should, as the goal of Sesame Street states, be prepared for formal schooling.

The draw-a-boy-or-girl-like-yourself test measures the child's awareness of himself, another stated objective of the program. It also gives a gross measure of imagination and creative expression by giving the child the opportunity to go beyond drawing parts of the body and include clothes and other accessories.

The tests were administered at the same time as in the other study - after three weeks in first grade for the good reasons I

listed earlier. It was nearly four months following the completion of their second year's worth of 130 Sesame Street programs. This time lag would reveal what the child has remembered and the amount of knowledge available to him to apply and use in first grade. If learnin (especially learning with understanding) had, in fact, taken place, it should have had lasting effects and surely have had holding power over the summer.

Table 5 shows the mean (or averages) and the t values betwee Sesame Street (E4) and Control (C4) children on all the measures of the Metropolitan Readiness Test. On all measures except Word Meaning the Control Children (C4) scored higher than Sesame Street children. Matchi Alphabet, Copying, and Total score reached statistical significance in favor of the C4 group. All the scores, however, have profound educational significance. The oral vocabulary, ability to understand phrases and sentences, to pay attention, to reason, to recognize letters of the alphabet, number

knowledge and visual-perceptual skills are all poorly developed in children who have been exposed to Sesame Street on a regular basis for two years. They have not achieved a sufficient degree of proficiency in those characteristics that are important for success in mastering first-grade work. It is of some importance to note that children exposed to Sesame Street over a two-year period made significantly less educational gains than control children who participated in a structured Head Start program.

It would be of some interest to know what impact Sesame Street had on children who viewed the program on a regular basis for different lengths of time. Table 6 compares the readiness test scores of children who viewed Sesame Street two years (E4) and children who viewed Sesame Street one year (E5). There was no statistical difference between the E4 and E5 groups on any subtest measures of the Metropolitan. It is apparent that the readiness pattern of four-and five-year-old Sesame Street

graduates is similar. The pattern indicates no permanent educational benefits were derived from increasing the length of viewing time of Sesame Street for these poverty children. Four-year-olds who watched Sesame Street two years were as unprepared for first grade as five-year-olds who viewed the program one year. The added benefit of an additional year of viewing Sesame Street was not reflected in increased readiness for first grade.

Sesame Street spends considerable time and uses various means to focus the viewers' attention on self-awareness, the thought being that a heightened awareness of self enhances identity and body image.

Table 7 shows a comparison between E4 and E5 children on the awareness of themselves as reflected in their drawings of themselves. The means raw score indicates the average number of body parts the children drew. A score of approximately 17 for

boys and 21 for girls be considered average for the general population of boys and girls of this age. Drawings are scored on a one- or two-point basis and raw scores can be converted to IQ scores with an average of 100. There is no difference in average number of body parts drawn and IQ scores for E4 and E5 children. The scores are quite low for both groups, suggesting a poor body image. These findings are further evidence that increasing the length of time of viewing Sesame Street had no effect on the educational development of these children.

Table 8 puts the scores of the six-year-olds who had watched Sesame Street at age 4 and 5 into proper perspective. Their scores were compared with the scores of their first-grade classmates. After all, these are the children with whom the Sesame Street graduates will be working the entire school year. These classmates are children

children

preparation for school.

A close examination of the two control groups (C4 and C5), the two Sesame Street groups (E4 and E5) and the two groups of first grade classmates reveal a definite trend. The findings show a trend has been established of poor preparation for school which will result in future academic failure among Sesame Street graduates and improved school preparation and a brighter academic future for poverty children exposed to a different kind of educational program. The result is the development of an achievement gap between poverty children who attended a preschool program which relied heavily on Sesame Street as the educational component and poverty children who attended a program which had a structured curriculum and which relied heavily on teacher-child interaction and the use of manipulative material. The high correlation between readiness test scores and the post first grade achievement scores of E5 and C5 children indicate that the achievement

their first grade

Street. What do poor children learn from it? Our data show that the

best efforts of Sesame Street have failed to reduce their education

problems. The educational benefits of Sesame Street for these

poverty children is hard to see. Only to the degree that a television

program brings positive improvements does it rightfully deserve

the label "educational" instead of "entertaining". Our findings

suggest that Sesame Street has claimed more than the data will

sustain. This raises a thoughtful question. Has the staff of

Children's Television Workshop mandated more in hope than performance?

The achievement of academic readiness skills is not the only

goal the staff of CTW has set for Sesame Street. Other goals are the

achievement of self-awareness and of such social values as sharing

and cooperating. Other objectives are the attaining of certain

behaviors and mental operations which enhance the learning process,

such as thinking, reasoning, generating ideas and imagining. A

prominent Ivy League psychologist claimed that Sesame Street will teach children how to think and how to learn.

For the viewer to learn these behaviors, he must see and hear good examples of them on the screen, since he obviously cannot be engaged actively in activities that shape these behaviors.

What would be good illustrations of cooperation, self-identity, thinking, reasoning, and creativity? Well, examples might show children and adults (playing the role of teachers) working together, engaged in spontaneous and natural conversation, expressing feelings, exchanging ideas and personal experiences, and asking questions. You would expect the personality of each child to shine through his movements, feelings and the ideas he expresses. Why? Because you would expect the adults to create the conditions that foster self-expression. Because you would expect them to understand the importance of meeting children where they are, listening to and respecting

their ideas, feelings, and observations. You would expect adults to grasp the importance of letting children talk and talk openly, naturally, and spontaneously to each other. How else can a child learn to generate ideas, think, reason and imagine? What better way to foster self identity, to give a child a good feeling about himself, than by someone listening respectfully to what he has to say?

The behavior the adults model and the relationship they establish with the children they talk to on the program leave an impression on the viewer's mind just as strong as the impression of the letter A or the number 1. The impression of the adult-child relationship and the behaviors involved in it may make an even keener impression than the letters and numbers because of the young viewer's close identification with the child on the screen.

An analytical look at the adult child communication pattern will tell us if Sesame Street has established the correct climate for

the personal social values and learning behavior it set out to cultivate. A communication pattern is a combination of talking, behaving, and relating. It is a two-way transaction between adult and child, not one-way from adult to child. This communication pattern has a substantial impact on the child's ability to think, generate ideas, create and cooperate. It influences the attitudes he will have toward school and teachers.

Analysis of the communication pattern serves an additional purpose. Through it Sesame Street's philosophy of education, attitude toward children and learning will be manifested unequivocally. Teaching practices are an unmistakeable telltale of philosophy and attitudes. Are these practices consistent with the expressed goals? If the words and picture are the message, just what is that message coming through the tube to the young viewer?

Sesame Street throws so much at the audience so fast that

the message passed before you have a chance to examine it. So I found a way to capture the message and slow it down to a pace where I could analyze what was going on between adults and children on the program. Every time an adult (male or female) appeared on the screen with a small group of children the entire sequence of events was recorded on audio tape. Sometimes this occurred one, two, or three times on the hour-long program, while some programs had no small-group activities with adults and children. Fifty programs were viewed between the first of October, 1971 and the fifth of January, 1972. From these 50 programs, 36 small group activities involving an adult and children were recorded. Of these 36, 12 were randomly selected and transcribed verbatim. The sequences taped included a wide variety of activities. The general discussions seemed designed to generate ideas, teach problem-solving and lead the children to discovery.

The behavior of adults and children was analyzed in ways that could be measured objectively. We counted the average sentence length of both adult and child, the average number of words spoken during an activity by adult and child, the percentage of time an adult talked during each activity, and the percentage of time a child talked, the number of times children used the pronoun "I", the number of times children made reference to personal experiences, the number of spontaneous comments, and the number of "why" and "how" questions posed by the child. In addition we measured who initiated the activity or discussion and whether it was adult-guided and-controlled or child-guided and-controlled. An activity was considered adult-guided and-controlled if the child's response was followed by an adult response so the dialogue would go adult-child-adult-child-adult, etc. An activity was considered child-guided and-controlled whenever a child's response was followed by another child's response, so the

(Tables 9, 10, 11, 12).

dialogue would be adult-child-child. An activity was considered adult-dominated if an adult asked a question or made an inquiry and then went on to answer the question or inquiry himself.

Table 9 reveals that the adults on Sesame Street talk nearly 90% of the time when they are with children. Perhaps just as interesting is the fact that when they do have a chance to talk, the children say very little. Their average sentence length is only 2.6 words. The majority of the time they say one or two words in response to a factual question. The longest sentence contained ten words.

Table 10 throws some light on why children talk so seldom and have so little to say when they do talk. The adults structure the activity, and they control its direction and tempo. They do not permit the children to exchange ideas and information with one another. A child's response is always followed by an adult response.

Adult-dominated dialogue occurs when the children do not respond quickly enough for the adult and when the adult asks a question that was not really intended for the children. He goes right on to answer it himself. The adult behavior and attitudes are inconsistent and seem to confuse the children. At times the adult discourages talking and social interchange of ideas and on other occasions he prods them to talk freely and openly. When the children do not respond to the prodding some of the adults show impatience and annoyance. The females, more so than the males, appear more impatient and show more annoyance(which they always accompany with a broad smile) when the child fails to respond just the right way or at the right time.

Tables 9 and 10 provide some insight into Table 11. It shows that children on Sesame Street seldom talk about themselves and their personal experiences and seldom get personally involved in

the activity. It's of some interest to note that the younger, preschool children are usually the ones who initiate personal comments and observations. The older school-age children on the program volunteer very little information beyond what the adult wants to hear. Personal references, spontaneous comments and talk about "me" were measured because children naturally and openly act this way and consequently it is an excellent gauge of adult-child relationship. "Why" and "how" questions are expected from alert curious young children. Everything in sight lures a young child. How does it work? Why is it that color or shape? Where did it come from? These are the insistent questions of growing minds. Their absence is a measure of the quality of the curriculum and/or the adult-child relationship.

Table 12 sheds light on the quality of the adult behavior and attitudes toward children and learning. It shows that when

the children say something that is not directly solicited by the adult, what the child says is most frequently ignored. If the comment is not ignored outright it is interrupted. The adult talks over the child in a louder voice to get the other children's attention. The older children's awareness that they will get ignored or interrupted might explain why they seldom volunteer personal information. They seem to get the message more quickly than the younger children. Maybe the younger ones also get the message but are more willing to throw caution to the wind. By their behavior and attitudes the adults are effective in discouraging open, natural, and spontaneous expression of feelings and ideas and personal observations.

Let's take a closer look at these findings in relation to the expressed goals of achieving, in the young viewer, certain personal and social values and certain behavior and mental operations

which enhance the learning process. A balanced evaluation should separate the claims about the product in the box from the facts about the product. If the words and picture are the message, just what is the message coming through the tube? The young viewer sees and hears that adults as teachers are grossly inconsistent and contradict themselves in non-understandable ways. The young see and hear how an adult puts into practice the concepts of sharing and cooperation. Sharing of ideas and conversation means a 90:10 ratio. Adult-child cooperation is a one-way process. It means the child must listen to an adult and do what he says but the respect is not mutual. An adult is bigger with a stronger voice and does not have to listen to a child or do what he says. The young viewer, on one occasion, sees and hears on one part of the program how the democratic process cherishes and strives to maintain the autonomy, individuality, and dignity of a child only to see and hear, on

another occasion a child just like himself being ignored or interrupted by a controlling adult. The child in front of the TV sees and hears that thinking, reasoning, generating ideas, imagination, creativity are things that are adult initiated, adult-guided, and adult-controlled. He is told that a child can engage in these activities under certain conditions and certain circumstances. For example, the adult says in effect, "you have 2 seconds to get an idea. After that time, I will tell you the idea you should have generated". Or "tell me and the other children what you were thinking, but hold it down to 2.6 words." Somehow, it is almost more honest, isn't it, not to even pretend one is interested rather than indulge in this kind of sham with children. Such charades do not go unnoticed by the children on the program and the youngster in front of the TV set. Let me give you two examples of how children tell adults that their behavior is confusing, contradictory and somehow not genuine. There

was a scene with an adult and a small group of children of different sizes. He put them in order of relative size and then proceeded to show a collection of materials which be ordered in the same way, giving the largest size object to the tallest child, etc. Some of the materials obviously stimulated the children and they attempted on several occasions to get involved themselves with the materials. But the adult either ignored or interrupted their efforts and went right on talking, retrieving the first materials from their hands and replacing them with new. The children had to sit there, watching and listening and were given no opportunity to participate. At the end the adult said in a very convincing way, "Now you know something about sizes." One child responded questioningly, "I do?"

On another occasion, an adult and children were engaged in an activity that had all the earmarks of being fun and enjoyable. She picked up the youngest child and put him in her lap. Instead

of responding the child just sat there like a statue and stared into space. On 1 or 2 occasions the adult turned toward the child with a big broad smile in an effort to relax the child and get him to enter into the spirit of the activity. Apparently, the child's posture and expression bothered the adult holding the child or someone off camera. She leaned around in front of the child a final time with a big broad smile, but this time, in desperation, she took her thumb and finger and pushed the corner of the child's lips upward to form a smile. The temptation is to explain this behavior and the entire adult-child communication pattern in terms of the newness of being before a camera. But having been behind a camera four years filming 4-and 5-year olds in the classroom, I can assure you that young children quickly become as accustomed to the camera and lights as they do to the blocks, toys, and teachers in the room. Within a very short time they forget about the camera

is the conviction that learning is advanced more by what you put into children than what you get out of them. Sesame Street subscribes to the philosophy that teaching is telling and learning is hearing. If the adult tells and the child hears often enough learning is bound to occur. The adult role in the teaching and learning process comes through loud and clear. Only an adult can teach and his emphasis is clearly on correctness, right or wrong.

Adult control maximizes efficiency. It avoids many problems by suppressing naturalness, openness, and spontaneity. By controlling thought, communication, and activity the adult can teach the text and cover more ground in a shorter period of time.

The methods used to control child behavior are swift, effective, and powerful. The one that gets the quickest and most complete results is also the simplest. Merely ignore the behavior you want to extinguish. It takes only a few instances of being ignored

for a child to give up the behavior that made no impression on the adult. Another method is simply to interrupt the child by talking in a voice that is a little louder and stronger. With young children this isn't too difficult. The consequents of these methods are achievements of a sort - discipline, conformity, convenience for the teacher. But achievements that must be weighed against long-term unwanted side effects that include apathy, withdrawal, resentment, and rebellion.

This discovery of the real Sesame Street attitudes toward children and learning may be difficult for some of you to accept. Your opinion about the program up till now may not have agreed with the findings I have reported. But it appears that on Sesame Street children should be seen and not heard. They should speak only when spoken to and then directly and to the point. Otherwise, children should be passive and dependent on the teacher for learning. The

only thing that counts is what you say, not what you are as a person. It is not necessary to listen to children and show respect for their ideas and feelings. Learning facts which can serve as answers to questions from a teacher or a test is what school is all about. And you learn these facts through passive repetition.

These attitudes raise some sober questions.

1. Is the message viewers - young and old - are getting an accident or is it a product of a well-conceived and well-designed plan?

2. If Sesame Street is well-designed and planned is this a deliberate effort to downgrade the importance of democratic values and the dignity of the child which are cherished by both professionals and parents?

3. If what we are viewing is the outgrowth of a carefully conceived plan, why is this approach to the education of the poverty child advanced at a time when parents and educators are pushing for more humane treatment of children?

4. Are the planners who advocate this philosophy and these attitudes toward children TV producers or professional educators?

5. How are Sesame Street's teaching practices different from those of 50 years ago?

Sesame Street's contribution to educational innovation and reform can be summed up by a modification of a famous eulogy to Churchill I recently heard: Seldom have so few done so little for so many. John Dewey warned us that the real danger in education is perpetuating the past under forms that claim to be new but are only disguises of the old. To embrace the attitudes toward learning and children that Sesame Street is advancing would constitute a step backward in our efforts to deliver quality education to the poverty child. The discrepancies between the expressed objectives of the program and the means the adults choose to reach these objectives are great. So great that one is forced to question the design and development of the program or the sincerity of the effort. At a time when traditional teaching practices and educational goals are

being questioned and the push for more humane treatment of all children is being increased, it is most unfortunate that an idea was embraced that has all the earmarks of the past and that turns its back on educational change. At a time when we are beginning to reject restrictive, repressive, authoritarian schools and teachers, we find a blatant violation of democratic values on a television program that claims to represent the latest in educational reform. At a time when high school and college students are demanding that they be treated with dignity and respect and closer teacher-student, student-student relationships, young children are being exposed to the very practices older students are rebelling against.

Looking behind the claims, hopes, and aspirations of the developers and producers, and examining the substance, the evidence shows a caricature of the weaknesses of our present-day public education. It is an excellent projection of what many children are in for once

they become of school age.

The principle purpose of the study I present here today is to focus thought and attention on one real issue. Does Sesame Street offer quality education to poverty children? The case for or against Sesame Street as an educational program can be decided by answering this question: What do poverty children learn from it?

Sesame Street's major problem is its failure to think seriously about its mission. To attempt to do everything for everybody, to educate the masses without careful thought for the special problems of the primary children they are trying to serve open our eyes to the fantasies, aspirations and naivete of the developers. Fantasies are alright as long as you label them as such and not as education. Aspirations are alright as long as you label them as such and not as guarantees. But naivete is dangerous when a project of this magnitude is undertaken.

When you strip away the colorful image-making in Sesame Street programs and take a close look at the substance, you find that education is sacrificed for entertainment. The mere manipulation of alphabet letters and numbers does not make a program educational any more than the equipping of a day care center with swings, blocks, and crayons makes it an educational place for children.

An educational program for poverty children stands or falls on the arrangements made for beginning developmental status, for timing and continuity of learning steps, methods of teaching and learning, and individual differences in ability and mode of learning. Its success depends on the tying together of learning with the emotional, social, motivational and attitudinal aspects of the poverty child's development. Sesame Street's failure to come to grips with any of these issues and the gross inconsistency of its expressed goals and its actual practices puts it on most delicate

ground as an educational program. The use of the word "education" appears to be a thin-skinned veneer that splinters under close scrutiny. The program appears to be a conglomeration of experiences and episodes which have no discernible developmental base, no discernible developmental progression, and no discernible intervention strategy. As an educational program it is so poorly conceived, so poorly developed, and so poorly presented that there is a risk of more harm to the poverty child than benefit.

Time permits only two of many examples to support this analysis. These examples were taped from the program.

(This is the second part of an exercise with the letter K.)

David, the youngest child, did not get the answer to the first exercise and the adult had the older children tell him. We pick up the dialogue at that point.

Adult: O.K. Jimmy, I want to ask you the next question. I want you to tell me a word that begins with a "K".

Child: Kim

Adult: Kim? That's not a word, that's a person.

Second Child: That's a name.

Adult: That's a name. That's different than a word.

That little lesson on the difference between words and names and the letter "K" was dropped right there. Incidently, that was David's second chance and the second failure in the eyes of the adult and the older kids. The adult changed to another guessing game where he supplied an abundance of hints which the older children understood very quickly.

The second example is on your handout.

To say that the adult's behavior and the activity itself could have been improved upon and handled differently is an understatement. The adult missed a golden opportunity to touch upon a number of the goals Sesame Street has set for itself. What could have been done to turn failure into success for every child is not as important to this discussion as what was going on in that

little episode and why.

First, let's examine what the child had to do and know to be successful with this task. It was a problem-solving task of a fairly low level. But it was a problem-solving task he must master in order to go on to higher-level tasks. There were two parts to this problem. First, the child had to know the auditory sequences. He had to know the sound two comes after the sound one and the sound three follows the sound two, and so on. The child also had to be able to tie together the sound two with the visual symbol 2, the sound three with the visual symbol 3, etc. The adult assumed that the child could handle both parts of the problem. The children might have been able to, had he not made the problem so difficult. Instead of giving the children a strong hint, the hint was too weak and they failed. For example, the strongest hint possible would have been to go back to the lowest level of the sing-

song memorization of the sound sequence they heard repeatedly on the program. Instead he used words they might or might not have known. After one comes.....or now what comes after 2? What comes after 3? If you noticed, even when he used a strong hint by saying 1, 2, he broke the sound sequence with a silence and then followed with 3. The strongest hint possible, of course, would have been to have the adult say each number and have the children pronounce it together and then to have everyone count together with the teacher supplying a strong hint if necessary. Similar weak and strong hints could have been used in associating the auditory sound and the visual symbol. It was obvious that the children didn't have an understanding of the association of the auditory and visual stimuli when they pointed to six and said one.

I am trying to make a few crucial points with an illustration that comes exactly as it happened on Sesame Street. Teaching is

with a child and a puppet recalling the alphabet. I might add though, that the puppet was a nonexistent teacher and had the child's behavior shape his behavior. The result was fewer failures for the child and a much more comfortable experience for both.

The findings of the two year study of Sesame Street graduates, the findings of the adult-child communication patterns of the program, the examination and evaluation of the philosophy, adult behavior and attitudes toward learning and children fail to identify any redeeming features of Sesame Street as an educational program. The evidence suggests that the label education is misleading and deceptive.

In this paper, as in the previous paper, "Can Poverty Children Live On Sesame Street?",there is a message for you, my colleagues. There are simply no short cuts through the problems of educating poverty children. It is harder than you think for a profession to get from ignorance to knowledge. This heightened

awareness of the complexity and enormity of the problem of educating the poverty child it at once a challenge, an opportunity, and a danger. It is a challenge because many of us have tried but a solution to the problem remains elusive. It is an opportunity because if you as educators and researchers and the government will use these findings constructively, a number of desirable outcomes can flow. And, it is a danger because Sesame Street and other programs with surface appearances of education, may be thrust at the public as answers.

The cost of Sesame Street is quite deceptive. The price the poor are paying in human resources for Sesame Street is high and will run higher. The weak academic start - traced directly to Sesame Street - makes the poverty child vulnerable and heads him in the direction of his parents and grandparents. This vulnerability is paid for by needlessly costly special programs, counseling, tutorial

and remedial programs. Washington could decide that a one shot higher payment for education that will not crumple will serve the government -- certainly poor people -- better and more economically. The boast that Sesame Street costs $1.29 per child is quite deceptive according to our findings and represents just the initial down payment. The actual cost of that street as a piece of property is, in reality, very high. A little later comes the higher annual premiums to the taxpayer and frequent trips by the school-age poor child to the remedial program of his unhappy choice. By sixth grade the Sesame Street graduates will be about 3 years behind in academic achievement. The further they go, the greater the gap. I suppose the familiar saying, you get what you pay for and pay for what you get applies equally to merchandise and education. The tragedy of it all is that the poor are paying a heavy price and somebody else made the decision for them to pay it. What do you think the poor would say

if they themselves had all the facts and then were asked, who wants to live on Sesame Street?

TABLE 1

A COMPARISON BETWEEN EXPERIMENTAL POVERTY CHILDREN (E5, who viewed Sesame Street for one year) & THEIR MATCHED CONTROLS (C5) ON THE METROPOLITAN READINESS TEST

Tests	Group	Mean	t
Word Meaning	Sesame (E5)	4.76	1.11 N.S.
	Control (C5)	5.45	
Listening	Sesame (E5)	6.38	1.32 N.S.
	Control (C5)	7.45	
Matching	Sesame (E5)	5.57	.19 N.S.
	Control (C5)	5.80	
Alphabet	Sesame (E5)	6.76	.44 N.S.
	Control (C5)	6.30	
Numbers	Sesame (E5)	7.42	.57 N.S.
	Control (C5)	8.00	
Copying	Sesame (E5)	3.47	.42 N.S.
	Control (C5)	3.90	
Total	Sesame (E5)	34.38	.61 N.S.
	Control (C5)	36.70	

N.S. - Not statistically significant.

TABLE 2

A COMPARISON BETWEEN EXPERIMENTAL POVERTY CHILDREN (E5) AND THEIR FIRST GRADE CLASSMATES ON THE METROPOLITAN READINESS TEST

Tests	Group	Mean	t
Word Meaning	Sesame (E5)	4.76	3.51***
	Classmates	7.52	
Listening	Sesame (E5)	6.38	3.49***
	Classmates	9.52	
Matching	Sesame (E5)	5.57	.54 N.S.
	Classmates	6.32	
Alphabet	Sesame (E5)	6.76	2.61*
	Classmates	10.41	
Numbers	Sesame (E5)	7.42	2.86**
	Classmates	11.00	
Copying	Sesame (E5)	3.47	3.96***
	Classmates	7.70	
Total	Sesame (E5)	34.38	3.58***
	Classmates	52.41	

* $P < .05$ ** $P < .01$ *** $P < .001$

TABLE 3

A POST FIRST GRADE COMPARISON BETWEEN THE EXPERIMENTAL GROUP (E5, who viewed Sesame Street for one year) AND THEIR FIRST GRADE CLASSMATES ON THE SAT

Subtests	Group	Mean Grade Score	t
Word REading	Sesame	1.3	5.40***
	Classmates	2.1	
Paragraph Meaning	Sesame	1.2	4.00***
	Classmates	1.9	
Vocabulary	Sesame	1.3	5.12***
	Classmates	2.4	
Spelling	Sesame	1.3	5.39***
	Classmates	2.3	
Word Study Skills	Sesame	1.4	4.20***
	Classmates	2.8	
Arithmetic	Sesame	1.3	6.04***
	Classmates	2.2	

*** $P < .001$ These scores are all of statistical significance .

TABLE 4

A POST FIRST GRADE COMPARISON BETWEEN THE EXPERIMENTAL CHILDREN (E5) AND THEIR CONTROLS (C5) ON THE STANFORD ACHIEVEMENT TEST [1]

Subtests	Group	Mean Grade Score	t
Word Reading	Sesame	1.3	0.68 N.S.
	Control	1.4	
Paragraph Meaning	Sesame	1.2	1.27 N.S.
	Control	1.4	
Vocabulary	Sesame	1.3	1.76 N.S.
	Control	1.4	
Spelling	Sesame	1.3	0.15 N.S.
	Control	1.3	
Word Study Skills	Sesame	1.4	0.44 N.S.
	Control	1.5	
Arithmetic	Sesame	1.3	1.05 N.S.
	Control	1.5	

N.S. - Not statistically significant.

[1] - Grade Score at 1.8 is equal to appropriate Grade Level at time of testing.

TABLE 5

A COMPARISON BETWEEN THE E4 CHILDREN (viewed Sesame Street two consecutive years) AND THEIR CONTROLS (C4) ON THE METROPOLITAN READINESS TEST

Tests	Group	Mean (Average)	t
Word Meaning	Sesame (E4)	5.41	1.07 N.S.
	Control (C4)	4.79	
Listening	Sesame (E4)	5.91	1.56 N.S.
	Control (C4)	7.00	
Matching	Sesame (E4)	3.29	3.12**
	Control (C4)	5.54	
Alphabet	Sesame (E4)	7.95	2.83**
	Control (C4)	11.50	
Numbers	Sesame (E4)	6.83	1.77 N.S.
	Control (C4)	8.29	
Copying	Sesame (E4)	2.33	3.03**
	Control (C4)	5.33	
Total	Sesame (E4)	31.75	3.29**
	Control (C4)	42.45	

N.S. - Not significant. ** $P < .01$

TABLE 6

A COMPARISON OF READINESS SCORES OF CHILDREN WHO VIEWED SESAME STREET ONE YEAR (E5) AND TWO YEARS (E4)

Tests	Group	Years Viewed S.S.	Mean (Average)	t
Word Meaning	E5	1	4.76	1.09 N.S.
	E4	2	5.41	
Listening	E5	1	5.95	.05 N.S.
	E4	2	5.91	
Matching	E5	1	5.14	1.83 N.S.
	E4	2	3.29	
Alphabet	E5	1	6.76	0.84 N.S.
	E4	2	7.95	
Numbers	E5	1	7.42	.65 N.S.
	E4	2	6.83	
Copying	E5	1	3.52	1.38 N.S.
	E4	2	2.33	
Total	E5	1	34.38	.68 N.S.
	E4	2	31.75	

N.S. - Not significant.

TABLE 7

MEAN IQ AND RAW SCORES ON DRAW A PERSON TEST OF CHILDREN WHO VIEWED SESAME STREET ONE YEAR (E5) AND TWO YEARS (E4)

Sex	Group	Mean RS*	Mean IQ*
Male	E5	12.33	84
	E4	11.35	83
Female	E5	12.43	82
	E4	12.38	82

* Differences in scores are not of statistical significance.

TABLE 8

A COMPARISON BETWEEN THE E4 CHILDREN (viewed Sesame Street two consecutive years) AND THEIR FIRST GRADE CLASSMATES ON THE METROPOLITAN READINESS TEST

Test	Group	Mean	t
Word Meaning	Sesame (E4)	5.42	4.36***
	Classmates	9.42	
Listening	Sesame (E4)	5.91	5.72***
	Classmates	10.62	
Matching	Sesame (E4)	3.29	5.16***
	Classmates	8.08	
Alphabet	Sesame (E4)	7.95	4.14***
	Classmates	13.37	
Numbers	Sesame (E4)	6.83	3.85***
	Classmates	10.45	
Copying	Sesame (E4)	2.33	4.88***
	Classmates	7.04	
Total	Sesame (E4)	31.75	6.30***
	Classmates	59.00	

*** $P < .001$

TABLE 9

A COMPARISON BETWEEN THE ADULT-CHILD COMMUNICATION PATTERNS IN RELATION TO MEAN SENTENCE LENGTH, WORDS PER GROUP ACTIVITY AND PERCENT OF TALKING OF ADULT AND CHILDREN ON 12 SESAME STREET PROGRAMS

Group	Sentence Length (Range)	Words Per Group Activity	Percent Talking (Range
Adult	7.3 (3-21)	240.1	89.6 (79-96)
Children	2.6 (1-10)	26.6	10.4 (4-21)

TABLE 10

A COMPARISON BETWEEN ADULT-CHILD AND CHILD-CHILD COMMUNICATION PATTERNS AS EXEMPLIFIED BY ADULT INITIATED OR CHILD INITIATED ACTIVITY AND ADULT CONTROLLED OR CHILD CONTROLLED DIALOGUE ON 12 SESAME STREET PROGRAMS

Adult Initiated	Child Initiated	Adult Controlled	Adult Dominated	Child Controlled
100%	0%	88%	12%	0%

TABLE 11

AN ANALYSIS OF CHILD INITIATED COMMENT OR CONVERSATION ON 12 SESAME STREET PROGRAMS

Use of Pronoun "I"	Personal Reference	Spontaneous Comment	Why, How Questions
5	4	11	1

TABLE 12

AN ANALYSIS OF ADULT RESPONSES (PERCENTAGE) TO CHILD INITIATED COMMENTS OF CONVERSATION OBTAINED FROM 12 SESAME STREET PROGRAMS

	Use Of Pronoun "I"	Personal Reference	Spontaneous Comment	Why, H Questio
Ignored	60%	75%	58%	100%
Elaborated	20%	-	-	-
Adult Interrupted	-	25%	33%	-
Listened but did not comment	20%	-	9%	-

Adult: No that doesn't come after three.

Child: Seven

Adult: That's so eight. (Child wants to say would so eight.) What comes after three? One, two, three...

Child: four

Adult: Good, can you find it? Good. Now after four comes one, two, three, four... ...

Child: five

Adult: Right again. You're right on cards. Can you find a five? Look for a five.

Child: (Child begins to do something else.)

Adult: No, let's just find a block with a number. Then you go O.K., let's count when from one through and make sure we've got them all in order. (Helps to get one touch for each as children count)

Children: two, three four five

Adult: What comes after that?

Child: two ... one

Adult: Not down there. (Child wants to put a wrong number in the wrong place.) What comes after five? One, two, three, four, five ... ...

Child: six

Adult: You're right again. Put it right on the next block. O.K. Now what comes after six? (Child stops because) after six comes

Child: three?

Adult: Six ... Count with me again. One, two, three, four, five, six

Child: (Child points to the 1st and 2nd blocks and begins to count, one, two...)

Adult: No, let's start down here with number one. One, two, three, four, five, six. What comes after six?

The activity continues in this vein the same kind of inaccurate guessing.